

What is claimed is:

1. A method for registering at least one access point with a gateway in a network, comprising:
  - broadcasting from a gateway, a discovery message to said at least one access point in said network;
  - receiving from at least one access point receiving said discovery message, an access point registration request comprising access point location, IP address, MAC address, radio type, and power level information of said access point; and
- 10 storing said access point registration request information at said gateway.
2. The method of claim 1, wherein each access point selects a random delay prior to sending said access point registration request to said broadcasting gateway.
- 15 3. A method for registering at least one access point with a gateway in a network, comprising:
  - broadcasting a gateway discovery query message from said at least one access point;
  - receiving from said at least one gateway, a respective service discovery message;
  - selecting an appropriate gateway in an instance where more than one service discovery message is received; and
- 20 25 sending an access point registration request comprising access point location, IP address, MAC address, radio type, and power level information of said access point to said selected gateway.
4. The method of claim 3, wherein said selecting further comprises:
  - 30 determining if said access point is currently registered; and
  - sending said service discovery message to said access point.
5. The method of claim 3, wherein said selecting comprises:

determining an appropriate gateway using at least one of the following: a cost of using a gateway, a load at a gateway, and system features provided by a gateway.

5 6. The method of claim 3, wherein said sending an access point registration request further comprises sending security information in said access point registration request.

7. The method of claim 6, wherein each access point selects a random  
10 delay prior to sending said access point registration request to said gateway.

8. A method of providing data services for a mobile host roaming between access points associated with different gateways, comprising:

receiving wireless services from a first access point associated with a  
15 first gateway;

sending a message to said first gateway indicating that said mobile host is receiving signals from a second access point associated with a second gateway;

sending a request to be switched to said second access point to enable  
20 thereby a registration with said second gateway; and

receiving buffered packetized information from said first gateway.

9. The method of claim 8, wherein said message to said first gateway comprises a layer-3 type message.

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10. The method of claim 8, wherein said sending said buffered packetized information comprises:

sending a message from said second gateway to said first gateway instructing said first gateway to forward said buffered packetized information to  
30 said second gateway; and

sending said buffered packetized information from said second gateway.

11. The method of claim 10, further comprising:

instructing said first gateway to terminate wireless services from a first access point associated with a first gateway.

12. A method for providing wireless communications for at least one mobile host in a wireless network environment using a communications protocol comprising an access point location, an access point Internet protocol (IP) address, a media access control (MAC) address, a number of access point radios, a radio type protocol of each access point radio, a radio power level indicator, said method comprising:

- 10 associating a mobile host with an access point;  
registering said mobile host with a gateway via said communications protocol; and  
providing data communications services to said mobile host through said gateway.

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13. The method of claim 12, wherein said providing data communications services comprises:

sending a request for services to a gateway including at least one level of quality-of-service (QoS) related features.

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14. The method of claim 13, wherein said quality-of-service (QoS) related features comprise at least one of a constant bit rate (CBR), a variable bit rate (VBR), a real-time variable bit rate (VBR-rt), a controlled load, a guarantee service, and a best effort service.

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15. A method of providing load balancing for data services for a plurality of mobile hosts, comprising:

receiving a wireless service request from a first transceiver associated with a first mobile host;

- 30 determining bandwidth capacity for said first transceiver;  
sending a wireless service rejection message to said first mobile host via said first transceiver in an instance where said bandwidth capacity has exceeded a predetermined threshold;

- receiving a wireless service request from a second transceiver associated with said first mobile host;
- determining bandwidth capacity for said second transceiver; and
- sending a wireless service acceptance message to said first mobile host
- 5 via said second transceiver in an instance where said bandwidth capacity is less than said predetermined threshold.
16. The method of claim 15, further comprising:  
providing information to said first mobile host via said second transceiver.
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17. The method of claim 15, wherein said first and second transceivers are respectively associated with first and second access points.
18. The method of claim 15, wherein said first and second transceivers are  
15 associated with a common access point.
19. In a communications system for providing information, a computer readable medium in a general purpose computer system that operates as a special purpose controller when executing at least one program for  
20 broadcasting said information, a communications protocol comprising:  
an access point location;  
an access point Internet protocol (IP) address;  
a media access control (MAC) address;  
number of access point radios; and  
25 radio type protocol of each access point radio.
20. The computer readable medium of claim 19, wherein said communications protocol further comprises:  
a power level indicator of a currently utilized access point radio.
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21. The computer readable medium of claim 19, wherein said communications protocol further comprises:  
a frequency channel of each a currently utilized access point radio.

22. The computer readable medium of claim 19, wherein said communications protocol further comprises:  
a lifetime indicator of a currently utilized access point radio.

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23. The computer readable medium of claim 19, wherein said communications protocol further comprises:  
a security indicator of a currently utilized access point radio.

10 24. The computer readable medium of claim 19, wherein said access point location comprises and alpha-numeric description of a hotspot associated with an access point.

15 25. The computer readable medium of claim 19, wherein said access protocol IP address comprises a unique IP address of said access point.

20 26. The computer readable medium of claim 19, wherein said radio type protocol of each access point radio comprises at least one of a radio type selected from the 802.11(a), 802.11(b), 802.11(g), and Bluetooth communication protocols.

27. The computer readable medium of claim 20, wherein said power level indicator provides indicia of signal strength of a beacon signal of an access point radio received by said mobile host.

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28. The computer readable medium of claim 22, wherein said lifetime indicator comprises indicia representing temporal connectivity between an access point radio and an associated gateway.

30 29. The computer readable medium of claim 23, wherein said security indicator comprises privacy keys to allow an access point to communicate with said associated gateway.

30. The computer readable medium of claim 19, wherein said communications protocol further comprises quality-of-service related features.
31. The computer readable medium of claim 30, wherein said quality-of-  
5 service related features comprise indicia representing apportioned bandwidth for a mobile host.
32. The computer readable medium of claim 31, wherein said quality-of-  
service related features comprise indicia of one of a best effort and dedicated  
10 bandwidth level of service.